

islands of Fünen and Laaland. The outer flowers were "brown-violet, the inner yellow."

During the month of June, 1910, it was the writer's privilege to make frequent observations upon both *T. porrifolius* and *T. pratensis* along the right-of-way of the C. M. & St. P. R. R. at Elgin, Ill. For a distance of several hundred feet the two species were abundant, the former occurring in the northern half of the tract and the latter in the southern half. Where the two kinds met, there were found not only plants of each species but also some thirty or more plants quite distinct. In size, the last plants more nearly resembled *T. porrifolius*, which in that vicinity was considerably the more robust plant. The flowers possessed, to a remarkable extent, the color pattern observed by Lange in the hybrids of Fünen and Laaland; the outer flowers of each head being a reddish "brown-violet" and the inner a yellow color. The involucrel bracts were mostly equal in length to the ray flowers. A remarkable uniformity prevailed in the flower-colorations, size of the mature plants, and proportionate length of the bracts. Individual plants were examined from time to time and in no case were they found to bear pure yellow or pure purple heads. However ramose the plant, its several branches produced heads with uniformly the outer flowers reddish brown-violet and the inner flowers yellow.

It thus becomes obvious that these plants were nothing more or less than hybrids between the two species that abounded in either direction. It is the more obvious because they were found growing only in a small restricted area of about three square rods where the two pure stocks met.

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### SHORTER NOTES

A NEW GERARDIA FROM NEW JERSEY.—*Gerardia racemulosa*.—Stem slender, 3-6 dm. tall, striate-angled, smooth, branched. Branches slender, elongated, ascending. Leaves narrowly linear to filiform, sparingly scabrous above, those of the stem 1.5-2.5 cm. long, 0.5-1.5 mm. broad, usually curling on drying, with conspicuous clusters in the axils. Inflorescences strongly racemose.

Pedicels 3 mm. long. Calyx-tube campanulate, 3 mm. high, its lobes triangular-subulate to subulate, 0.8–2.0 mm. long. Corolla rose-purple, about 20 mm. long, its lobes spreading, pubescent at base of upper lobes, purplish-spotted below within throat. Capsule ellipsoid-globose, 4–4.5 mm. in diameter.

Type—Parkdale, Camden Co., N. J., F. W. Pennell 2692 Coll. Sept. 27, 1910, in Herb. Acad. Nat. Sci. of Phila.

Moist sphagnous depressions, Pine Barrens of New Jersey; apparently also of North Carolina.

Specimens seen:

NEW JERSEY—Hornerstown, Monmouth Co., *J. H. Grove* 318; Pasadena, Ocean Co., *B. Long*; Forked River, Ocean Co., *B. Long*; Egg Harbor, Atlantic Co., *J. B. Brinton*, *A. MacElwee*, *C. Mohr*, *C. L. Pollard*, *H. H. Rusby*; Parkdale, Camden Co., *F. W. Pennell* 2692, 2694.

NORTH CAROLINA—Wilmington, *G. McCarthy* 47.

This plant must be considered as an offshoot of *Gerardia purpurea* L. (abundant through most of the Atlantic Coastal Plain), adapted to, and largely replacing that species in the peculiar environment of the Pine Barren region of New Jersey. The two forms seem quite distinct, and for their better understanding a diagnostic comparison is given. The characterization of *G. purpurea* L. represents the normal form of the plant as occurring about Washington, D. C., on the lower Susquehanna River in Pennsylvania, in Delaware, and in New Jersey.

Stem rather stout, 4–9 dm. tall, usually sparingly scabrellous; branches stiff, spreading; leaves linear or broadly linear, those of the stem 3–5 cm. long, 1.5–3.5 mm. broad, not curling on drying; inflorescences not strongly racemose; calyx-lobes triangular-lanceolate to triangular-subulate; corolla mostly 25–30 mm. long; capsule globose, mostly 6–7 mm. in diameter.

*G. purpurea* L.

Stem slender, 3–6 dm. tall, smooth; branches slender, elongated, ascending; leaves narrowly linear to filiform, those of the stem 1.5–2.5 cm. long, 0.5–1.5 mm. broad, usually curling on drying; inflorescences strongly racemose; calyx-lobes triangular-subulate to subulate; corolla about 20 mm. long; capsule ellipsoid-globose, 4–4.5 mm. in diameter. . . . . *G. racemulosa*.

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NOTES ON SOME CALIFORNIAN GREEN ALGAE.—An examination of Collins' recent work on the green algae (F. S. Collins, "The Green Algae of North America," Tufts College Studies 2: 79-480. *pl.* I-18. 1909) showed that two very characteristic species which have been collected in central California were not recorded for this state.

The first species is a *Spondylomorom*, probably *S. quaternarium* Ehrenb., the only recognized species of the genus, of which there seems to be no previous record for America. According to Wille (Volvocaceae, Engler & Prantl, Die Natürlichen Pflanzenfamilien, 1<sup>2</sup>: 40. 1890), this species occurs only in Europe and Asia.

In 1896, Dr. W. R. Shaw, then instructor at Stanford University, collected at Pacific Grove, near Monterey, a quantity of this species. He made a number of slides, three of which are now in the collection of the University. The specimens agree in all respects with the figures and descriptions of *S. quaternarium*, but are somewhat smaller than the dimensions given by De-Toni in his Sylloge Algarum, where the size is stated to be 36-75 $\mu$ . The largest Californian specimens hardly exceed 40 $\mu$  in length. No further collections of *Spondylomorom* have come to my attention.

The second alga to be noted is *Pithophora oedogonia* (Mont.) Wittrock. This species has been collected several times in Felt Lake, a small body of water some four miles from Stanford University. The identification was made by Professor W. A. Setchell.

The species of *Pithophora* are for the most part tropical, but several species have been reported from stations in the eastern and central parts of the United States. So far as I know, the genus has not before been recorded from the Pacific Coast.

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## REVIEWS

### Hough's Leaf Key to the Trees

A little book of interest to teachers that has appeared recently is Mr. R. B. Hough's Leaf Key to the Trees.\*

\*R. B. Hough. Leaf Key to the Trees of the United States and Canada, and a Botanical Glossary, pp. 1-49. Published by the author, at Lowville, New York, Sept., 1910. Price \$.75